Memorandum

Exec AD Adm. —
Exec AD LES —
Asst. Dir.:
Adm. Servs. —
Crim. Inv. —
Ident. —
Intell. —
Laboratory —
Legal Coun. —
Plan. & Insp. —
Rec. Mgnt. —
Tech. Servs. —
Training —
Public Affs. Off. —
Telephone Rm. —
Director's Sec'y —

To : Mr. Bayse

Date 1/14/81

7C
From : [redacted]

Subject : ASSASSINATION OF PRESIDENT
JOHN F. KENNEDY
11/22/63
DALLAS, TEXAS

PURPOSE: To respond to the Department of Justice's (DOJ) request to provide background information on the FBI's review of the acoustical reports published by the House Select Committee on Assassinations.

DETAILS: On 1/7/81, Jeffrey I. Fogel, Attorney, General Litigation and Legal Advice Section, DOJ, requested the Technical Services Division (TSD) to provide background information on the TSD's 11/19/80, Review of the acoustical reports published by the House Select Committee on Assassinations [redacted] to Bayse memorandum dated 11/19/80, captioned as above). Mr. Fogel stated that the background material would be forwarded to the National Academy of Sciences, who are also reviewing the acoustical reports of the House Select Committee. 7C ⑩

Enclosed is an addendum to the 11/19/80 review. Mr. Fogel has previously been provided with a tape copy of the public hearings before the House Select Committee on 12/29/78.

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ENCLOSURE

1 - Enclosure

1 - Mr. Colwell
1 - Mr. Mullen
1 - Mr. Mintz
1 - Mr. Monroe
1 - Mr. Young
1 - [redacted]
1 -
1 -
7C
(17)

7C 1 - [redacted]
1 - Mr. Bayse
1 - [redacted]
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JAN 19 1981

CONTINUED-OVER

78 JAN 29 1981

7C Memorandum [redacted] to Mr. Bayse
RE: ASSASSINATION OF PRESIDENT
JOHN F. KENNEDY
11/22/63
DALLAS, TEXAS

This matter has been coordinated with SA [redacted] of the Criminal Investigative Division.

RECOMMENDATION: That personnel of the Criminal Investigative Division review and make appropriate dissemination of the enclosure to Mr. Jeffrey I. Fogel, Department of Justice.

CPM/fcl

JBO.

WOB/bym

Reilly/lip

Ful

January 14, 1981, Addendum to the FBI Review of Acoustical Reports Published by the House Select Committee on Assassinations

1. In reference to pages 3 through 12 of the FBI Review:

All information was quoted or summarized, as accurately as possible, from a recording of the public hearing before the House Select Committee on December 29, 1978, and from the "Investigation of the Assassination of President John F. Kennedy; Appendix to Hearings before the Select Committee on Assassinations of the U. S. House of Representatives, Ninety-Fifth Congress, Second Session; Volume VIII, Acoustics, Polygraph, Handwriting and Fingerprint Reports, March 1979," pages 3-127.

2. In reference to pages 13 through 20 of the FBI Review:

The information in this section is based on the extensive expertise and experience of FBI experts in the fields of forensic acoustics, forensic signal analysis, tape recorder and microphone theory, radio communications, RF propagation, FM receivers and antennas, and forensic firearms and ballistics.

In reference to page 15 of the Review, the gunshot in the GREENKIL matter was recorded at the scene on a Sony BVM-100 Video Recorder. The original video recording was played back by the FBI on a Sony VO-2850 Video Recorder and the soundtrack was recorded on a Nagra IV-SJ recorder at 15 inches per second on the left channel (1/2 track). A time code signal (IRIG "B") from a Systron Donner model 8154 Time Code Generator was recorded on the right channel.

The GREENKIL gunshot and the time code signal were then played back on the Nagra IV-SJ into a Honeywell 2112 Visicorder, dual channel, at 500 cm/sec onto 12-inch wide paper (Kodak Linagraph direct print paper, type 2167). See Figure A for a copy of the waveform. The waveform peaks were then measured in reference to the muzzle blast, both manually and with a Decscope terminal model VT-52 connected to a Digital Equipment Corporation PDP 11/70 computer. See Figure B for table of measured waveform peaks. Peaks below the line on Figure A were not used since they were too wide to be useful.

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ENCLOSURE

The gunshot waveform from the GREENKIL matter was then compared to the waveform examined by Weiss and Aschkenasy on the Dallas Police Department (DPD) recording. Figure C is a table of the GREENKIL gunshot peaks, the DPD waveform peaks, and the peaks predicted by Weiss and Aschkenasy. One of the nonmatching DPD peaks used by Weiss and Aschkenasy could not be accurately determined by the FBI.

Weiss and Aschkenasy compared the 18 DPD peaks to their 11 predicted echoes and the muzzle blast using a plus or minus 1 millisecond window, and found 11 matches. Using the binary correlation coefficient of 0.75 (11 divided by the square root of [12 x 18]), Weiss and Aschkenasy state that "at levels greater than 0.7 with a coincidence window of plus or minus 1 millisecond, the statistical probability was 95 percent or more that the sequences represented the same source--a sound as loud as a gunshot from the grassy knoll."

The FBI first compared the 18 DPD peaks to the 14 peaks and the muzzle blast on the GREENKIL gunshot using plus or minus 1 millisecond windows, and found 12 matches. The binary correlation coefficient of 0.73 (12 divided by the square root of [15 x 18]) resulted in a statistical probability of 95 percent or more that "the sequences represented the same source--a sound as loud as a gunshot from the grassy knoll."

The FBI then narrowed the coincidence window to plus or minus 0.9 millisecond and found that Weiss and Aschkenasy's binary correlation coefficient dropped to 0.54 (8 divided by the square root of [12 x 18]), or a probability of only 44 percent that the sound pattern on the DPD recording would match the predicted echo sequence from the grassy knoll. Whereas, the GREENKIL binary correlation coefficient remained at 0.73, or a 95 percent or better probability of matching.

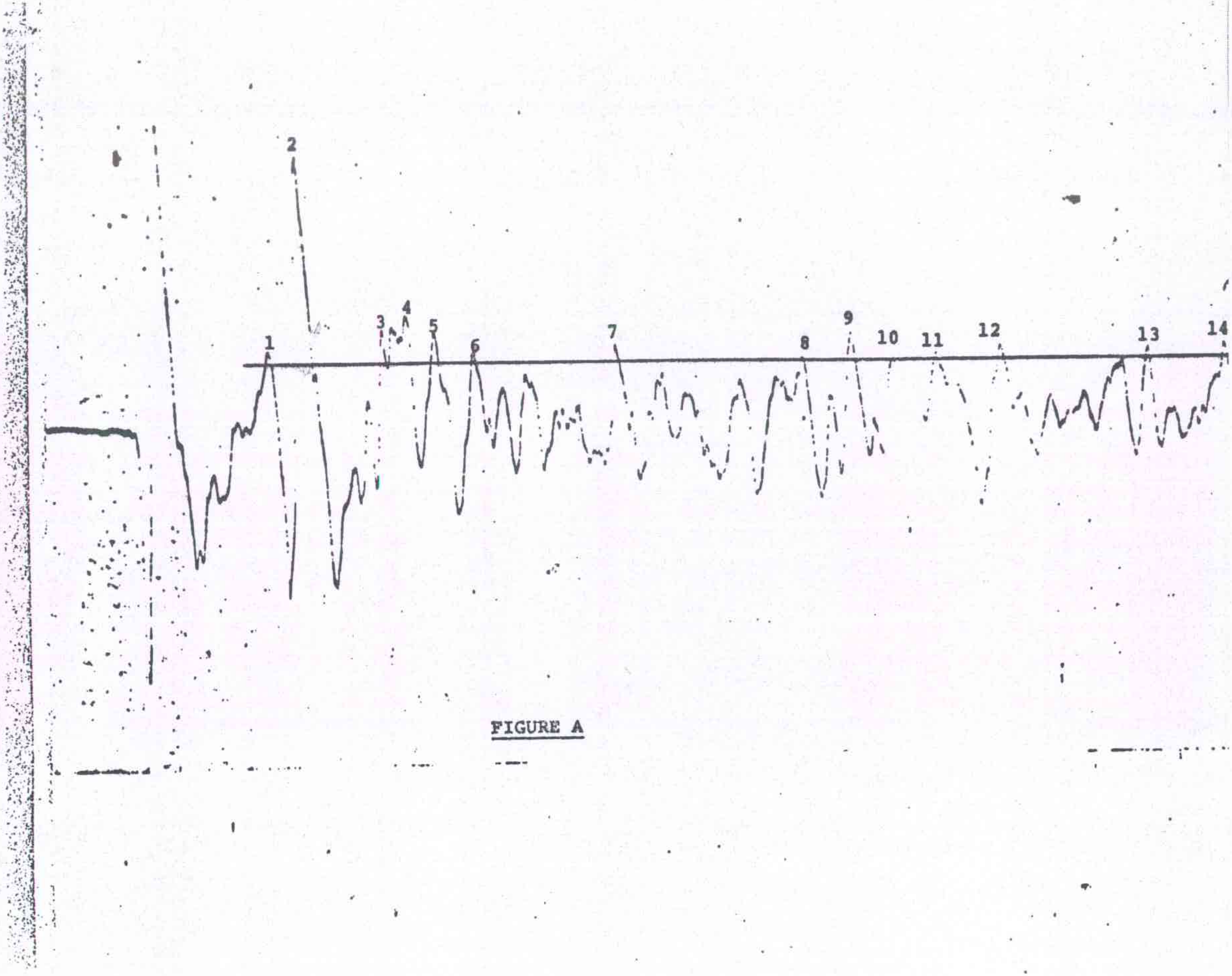

FIGURE A

FIGURE B

GREENKIL Peak	Measured Time (in milliseconds)
1	5.2
2	6.5
3	10.2
4	11.2
5	12.3
6	14.0
7	20.0
8	27.9
9	30.0
10	31.8
11	33.6
12	36.3
13	42.5
14	45.6

FIGURE C

All numbers listed below are in milliseconds.

DPD Peaks	Weiss and Aschkenasy Predicted Peaks	Weiss and Aschkenasy Deviation	GREENKIL Peaks	GREENKIL Deviation
Muzzle Blast	Muzzle Blast	0.0	Muzzle Blast	0.0
3.4*		NM		NM
6.3	6.5	0.2	6.5	0.2
10.5	10.9	0.4	10.2	0.3
14.7	15.1	0.4	14.0	0.7
19.3	18.8	0.5		NM
20.1	21.1	1.0	20.0	0.1
22.5*		NM		NM
27.4	28.4	1.0	27.9	0.5
30.3	29.3	1.0	30.0	0.3
31.6	31.2	0.4	31.8	0.2
34.1	34.7	0.6	33.6	0.5
37.1*		NM	36.3	0.8
40.5*		NM		NM
42.8*		NM	42.5	0.3
45.4	45.6	0.2	45.6	0.2
48.7	48.2	0.5		NM
**		NM	Unknown	Unknown

*Computed from sound pattern shown in Weiss and Aschkenasy's Report.

**One of the DPD peaks not matched by Weiss and Aschkenasy could not be accurately determined.

NM - No Match